Conserve Wildlife

Newsletter of the New Jersey Endangered and Nongame Species Program

Spring/Summer 1995 ***ISSN 1061-0928***

Higbee Beach is for the Birds... and Butterflies!

By Eric Stiles

Higbee Beach Wildlife Management Area, located on the southern tip of the Cape May peninsula, has gone to the butterflies! Higbee Beach, long touted as one of the best birding hotspots on the East Coast, has recently emerged as a haven for butterfly watchers. (If bird watchers are referred to as 'birders', does it follow that butterfly watchers be referred to as 'butterfliers'?) The area boasts a rich blend of habitats that include dunes, fields, ponds, marsh, and forests; thus providing excellent habitat for both resident and migrating butterfly species.

The Endangered and Nongame Species Program (ENSP) has recently completed two new projects that enhance Higbee's importance to butterflies, and educates users regarding the role that these winged jewels play in the ecosystem. During the spring of 1993, ENSP staff and Wildlife Conservation Corps volunteers planted a wildflower garden. The garden provides a rich source of nectar for adult butterflies, attracting numerous species from the surrounding fields and forests. The butterflies, in return for their sweet liquid treat, pollinate the wildflowers, producing seeds for future plants. A winding, wood chip path offers

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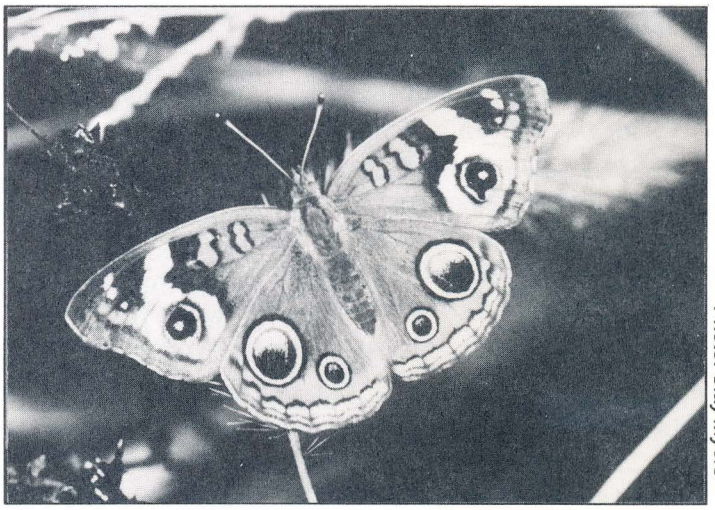

Photo: Clay Myers

A common buckeye perches on a plant at the Higbee Beach Wildlife Management Area butterfly garden.

Inside This Issue...

Welcome New Readers

The ENSP would like to take this opportunity to welcome the new readers that have recently been added to the 'Conserve Wildlife' newsletter mailing list. Over the past few months we have been working hard to add the names of thousands of people who have requested the newsletter as well as those people who have purchased 'Consere Wildlife' license plates. As a result, we have more than doubled our readership with over 30,000 subscribers.

As part of this process we have been trying to clean up the list by removing duplicate mailings and old addresses. This is not an easy task and we would appreciate your help. If you have moved recently (or within the past five years) write and tell us your old address as well as your new address. Also, if you receive more than one copy please send us the mailing label of the address you would like to have deleted from our mailing list. Thank you for your cooperation and continued support.

Endangered and Nongame Species Program

Department of Environmental Protection • Division of Fish, Game and Wildlife

Conserve Wildlife News

Spring/Summer 1995

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Endangered and Nongame Species Program Mission:

"To actively conserve New Jersey's biological diversity by maintaining and enhancing endangered and nongame wildlife populations within healthy, functioning ecosystems."

'Conserve Wildlife' License Plates Now Available For Over the Counter Sales

By Jim Sciascia

The Division of Motor Vehicles (DMV) recently announced that the 'Conserve Wildlife' license plate can now be purchased at all DMV offices. The wildlife license plate had been available only by application through the mail. Now motorists can simply walk into any DMV office and purchase these beautiful plates regardless of their current registration expiration date. The change in the way the plates are issued will also allow car buyers to put wildlife plates on their cars at the time of purchase. For mail order shoppers, the plates can still be obtained through the mail by calling (609) 292-6500 between 8:30 AM and 4:30 PM to request an application.

The fee for the standard 'Conserve Wildlife' license plates is $50 and there is still no annual renewal fee. Motorists with regular plates that have five character spaces or less can have their current plate number remanufactured on the wildlife plate for $60. Personalized plates having five characters or less are available for $150.

Wildlife enthusiasts will be happy to know that over 80% of the $50 fee goes directly into an interest bearing account in the N.J. Wildlife Conservation Fund to be used exclusively by the ENSP. Revenues from the wildlife plates are an important addition to the ENSP's funding since the Program is dependent almost entirely on voluntary contributions to the Wildlife Tax Check-Off and private and federal grants. The ENSP receives no state tax money for its programs to restore endangered wildlife populations and protect sensitive or declining wildlife species.

Current plans for license plate revenues include a project that will expand non-traditional wildlife recreational opportunities in N.J. through the development of a network of wildlife viewing areas. The 'Wildlife Diversity Tours/Watchable Wildlife' (WDT/WW) program will accomplish two important goals for the state. The network will showcase the incredible natural resources that New Jersey has to offer and demonstrate the value of open space conservation in preserving wildlife populations. Equally important will be the nature based tourism that the project will create to benefit local and state economies. The WDT/WW program is one of a number of nature based tourism activities that provide for economic growth with a vision to preserve open space.

To date, $245,000 has been committed to the WDT/WW project including an Environmental Protection Agency grant of $62,500, a federal Partnerships in Wildlife grant for $40,000 and $20,000 from Defenders of Wildlife. The WDT/WW sites will be featured in a viewing guide that is scheduled for completion in December of 1996. Money will be made available to local communities for the development, improvement and maintenance of selected wildlife viewing areas. Anyone interested in being placed on a mailing list to receive Watchable Wildlife program mailings can write to: N.J. Division of Fish, Game and Wildlife, Endangered and Nongame Species Program, R.D. #1, Box 383, Hampton, NJ 08827.

Higbee Beach Butterflies

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visitors easy access to watch the resplendent butterflies as they perch atop flower heads sipping nectar. Large, full-color informational signs have been posted in the garden detailing butterfly life history and their role in the ecosystem.

The second phase of butterfly habitat management at Higbee Beach came to fruition this past April when 3.5 acres of fallow field were planted as a wildflower meadow. The meadow offers a mixture of native grasses and wildflowers that provide host and food plants for caterpillars and adult butterflies. This large area offers visitors one of the largest butterfly viewing areas in New Jersey. Both the wildflower meadow and garden have low maintenance requirements and provide an excellent educational tool for visitors. Armed with a pair of binoculars and a good butterfly identification book, anyone can quickly become engrossed watching these dazzling creatures. Butterflies also make excellent subjects for amateur photographers.

By increasing habitat for butterflies, ENSP biologists are also expanding the prey base available for migrating neotropical passerines. Higbee Beach is a critical staging ground for fall migrating birds as they feed and rest prior to crossing the Delaware Bay. As habitat alteration continues along the Cape May peninsula, food plantings and prudent habitat management are needed to offset this loss.

Planting butterfly wildflower gardens is a rapidly growing pastime among suburban homeowners and industries alike. The gardens are relatively inexpensive to plant, easy to maintain, aesthetically pleasing, and can turn anyone into a backyard naturalist. There are many excellent books and articles on this topic and they provide an essential aid to anyone interested in starting their own butterfly garden.

For more information on butterfly gardening please write to the author at: Tuckahoe Wildlife Management Area, Endangered & Nongame Species Program, 2201 County Route 631, Tuckahoe, NJ 08270.

American Peregrine Falcon Proposed for Removal from Federal Endangered Species List

The U.S. Department of the Interior, Fish and Wildlife Service (Service) recently published in the June 30, 1995 edition of the Federal Register a proposal to remove the American peregrine falcon, *Falco peregrinus anatum*, from the Federal List of Endangered and Threatened Wildlife. The notice in the Federal Register is an advance notice of a proposed rule change advising that the Service is currently reviewing the status of the American peregrine falcon. According to the proposal, data currently on file with the Service indicate that this subspecies has recovered following restrictions on the use of organochlorine pesticides in the U.S. and Canada and because management activities, including the reintroduction of captive-bred peregrine falcons.

The Service intends for the removal of the peregrine

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New Jersey's Bald Eagle Population Soars

By Mike Valent

New Jersey's bald eagle breeding population soared to new heights in 1995 as the number of nesting pairs increased to 11. Nine of the pairs were successful at raising 20 young to fledging age. This represents the most confirmed nesting pairs, the highest productivity and best production rate (1.82 young/active nest) in the Garden State since the pre-DDT era several decades ago.

Photo: NJDFGW

Two recently banded eaglets from one of the state's newest nests located near Round Valley Reservoir in Hunterdon County.

During the 1995 season active eagle nests occurred at Bear Swamp, Belleplain State Forest, Cohansey River, Horne Run/Mannington, Newport/Nantuxent River, Maurice River, Raccoon Creek/Gibbstown, Stow Creek, Union Lake, Wading River and Round Valley Reservoir. All of the nests, with the exception of Round Valley Reservoir, occur within the Inner and Outer Coastal Plain of South Jersey.

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Squawfoots, Elliptios, Muckets and Floaters

By Jeanette Bowers Altman

You're probably wondering what kind of strange creatures could inspire such unusual names. Well, these peculiar names belong to a group of rather inconspicuous, yet vitally important, creatures that remain hidden beneath the depths of New Jersey's lakes, streams and ponds. Squawfoots, Elliptios, Muckets, and Floaters are just a few of the twelve freshwater mussel species that are native to Garden State waters. Freshwater mussels, or pearly mussels as they are sometimes called, inhabit fresh waters throughout the country. In fact, with almost 300 species, the United States has the richest diversity of pearly mussels in the world. Many of these colorful names are based largely on their shell appearance, such as the Appalachain monkeyface, elephant-ear, rabbitsfoot, and purple wartyback.

It's difficult to imagine the true value of a creature that sits in the mud at the bottom of a river, especially if you compare it to such high profile species as the bald eagle or peregrine falcon. Historically, freshwater mussels provided food for native Americans, but their rubbery consistency did not make them a preferred food item like salt water clams and oysters. Freshwater mussel shells were often used as currency and jewelry, and traded among certain native American tribes. Although mussels have little value as human food today, they hold unique ecological value. As a vital link in the food chain, they are major food sources for wildlife such as raccoons and muskrats. Young mussels are eaten by ducks, herons and sportfish. As natural filters they improve water quality by straining particles and pollutants from rivers. Also, since mussels have a low tolerance for water-borne pollutants, they are excellent indicators of water quality. There is even evidence that some pearly mussels may be resistant to certain types of cancer. Extraction of cancer-curing drugs from mussels may be feasible in the future.

Mussels are filter feeders that graze on a variety of microscopic particles, including algae, bacteria, and organic particles that are suspended in the water column. In order to feed, water is inhaled through a incurrent aperature (opening) and then passed over gills where food particles are collected and transferred to the mouth. Waste particles and unpalatable food items are flushed out through an excurrent siphon. By filtering out suspended particles, mussels improve the water quality and clarity of lakes and streams.

Reproduction among freshwater mussels occurs when the male releases sperm cells into the water column, which are then siphoned in by the female, to fertilize the eggs. Larvae develop and are retained within the female anywhere from two to 10 months. Larvae (or glochidia at this stage) are then released by the female in spring and early summer. Young freshwater mussels are parasitic on fish during the glochidia stage. These tiny creatures drift in the water current seeking a suitable fish host. Glochidia must locate and attach to the gills, fins or even the eyes of a specific species of fish in order to survive. Usually, glochidial attachment to a host fish causes no harm to the fish. If glochidia attach to the wrong species (non-host fish), they eventually fall off and die. Luckily glochidia that clamp on to the right host fish are nourished by its blood until they drop off (usually in about one to four weeks) and begin a mostly sedentary life as a free-living juvenile. Depending on the species, freshwater mussels can live for 60 years or more.

Unfortunately, pearly mussels are one of the most rapidly declining animal groups on the continent. During this century alone, one in 10 mussel species worldwide has become extinct, while almost three-quarters of the remaining species are rare or imperiled. In comparison to other groups, 55% of all freshwater mussels are extinct or imperiled compared to only 7% of the continent's birds and mammals. Freshwater mussels are rapidly declining for several reasons including habitat degredation, construction of dams, decline of host fishes, and expansion of exotic species such as the Asiatic clam and the infamous zebra mussel (*Dreissena polymorpha*).

By far the biggest threat to N.J.'s mussels will be zebra mussel infestation. Zebra mussels first appeared in 1986 in the Great Lakes, presumably arriving as stowaways on a European tanker. Within two years, these invaders from the Caspian Sea overwhelmed Lake Erie in concentrations as high as 700,000 per square meter. They clogged power plant intake pipes and literally smothered native mussels with their sheer numbers. One native was reported to be encased in 10,000 zebra mussels. In less than two years, Lake Erie's native mussel population was decimated, along with fauna from the Detroit River and Lake St. Clair. The zebra mussel has since infested mussel beds in the Mississippi, Illinois, Ohio, Tennessee, Hudson, Susquehanna and other rivers.

Thus far N.J. has been lucky in avoiding infestation by zebra mussels. According to many experts, the Delaware River drainage, which has the greatest diversity of freshwater mussels in the state, stands a good chance of becoming infested in the future.

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The Wildlife Diversity Funding Initiative

What is the Wildlife Diversity Funding Initiative?


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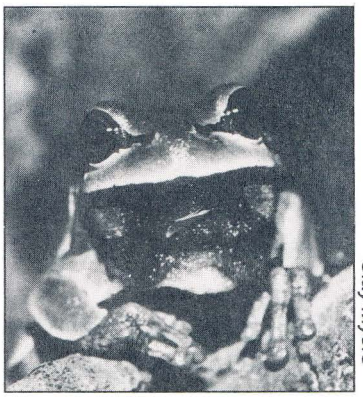
- The Wildlife Diversity Funding Initiative is the most far-reaching wildlife conservation initiative in more than half a century.

- The Initiative is an ingenious way of investing in the future by giving Americans the opportunity to contribute to conserving the fish and wildlife they care so deeply about.

- The Initiative offers three important benefits: it promotes conservation of our nation's fish and wildlife by preventing species and their habitats from becoming endangered; it gives Americans more recreational opportunities to experience wildlife and nature; and it fosters a responsible stewardship ethic through greater conservation education efforts.

- The Initiative is a mechanism for generating adequate and dependable sources of funds specifically dedicated for the conservation and enjoyment of wildlife and the habitats they depend upon.

Who benefits from the Wildlife Diversity Funding Initiative?


Clay Myers

- The more than 1,800 wildlife species for which no reliably funded conservation programs exist. These species include songbirds, herons, ospreys, fish, turtles, frogs, salamanders, butterflies, chipmunks, and others. By acting now, we can prevent many of these familiar species from becoming a rarity.

- Each of the 160 million Americans who now enjoy the outdoors — including backpackers, hikers, campers, canoeists, nature photographers, mountain bikers, bird watchers and those who appreciate wildlife in their own back yards.

- The various industries that earn $18 billion a year from Americans' love for wildlife — particularly outdoor recreation equipment manufacturers and distributors, and tourism related to wildlife viewing. A healthy future for wildlife means a healthy future for outdoor recreation and the businesses that depend on it.

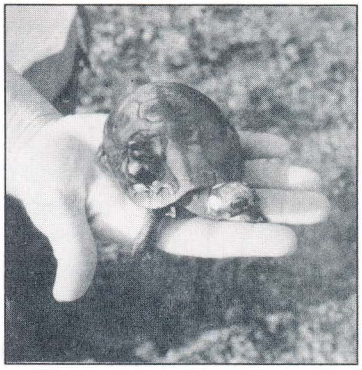
How would a Wildlife Diversity Initiative work?

- A growing coalition of conservation groups strongly favors a dedicated user fee in the form of a modest surcharge on outdoor recreation equipment, similar to the user fees hunters and anglers have long paid on their equipment and accessories under the Sport Fish and Wildlife Restoration Acts. By modeling the Initiative after programs that are already in place, we can ensure that the cost of administering the funds would be low; all of the funds would be dedicated for state-based wildlife conservation, recreation, and education — nothing else.

(Over)

- Charging entrance fees or selling national stamps, permits or licenses are other methods that have been proposed for funding the Initiative. But entrance fees may actually cost more than the funds they generate, since entrance stations may need to be constructed at many areas that are now free to the public, and hiring staff to collect the fees will incur major expenses. And selling stamps, permits or licenses can be a cumbersome process that is difficult to enforce.

How much would the Wildlife Diversity Funding Initiative raise?

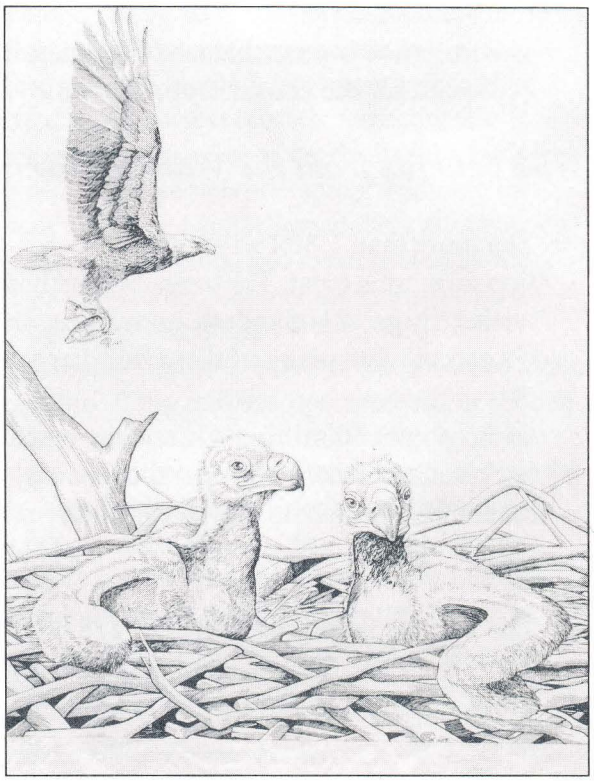


NJDFGW

- At least $350 million a year, the amount estimated needed to prevent species from becoming endangered or extinct. While these funds would emphasize wildlife conservation, they would also enhance hiking, canoeing and nature trails, wildlife viewing blinds and towers, and nature centers, and the availability of on-site naturalists, brochures, viewing guides, and other educational materials for schools, nature centers, parks museums, and wildlife management areas.

Who supports the Wildlife Diversity Funding Initiative?

- The International Association of Fish and Wildlife Agencies is spearheading the Initiative. IAFWA represents public fish and wildlife agencies throughout North America; all fish and wildlife agencies are IAFWA members.



© Doreen Curtin '87

- Along with IAFWA, seven other national conservation organizations have joined to act as a steering committee for the Wildlife Diversity Funding Initiative. Additional members include: World Wildlife Fund, National Wildlife Federation, National Audubon Society, Wildlife Management Institute, American Fisheries Society, The Wildlife Society, and Defenders of Wildlife.

How Can I Help the Wildlife Diversity Funding Initiative Become a Reality?

- We need you! Become a part of the Wildlife Diversity Coalition and join with us to secure reliable and adequate funding to protect the nation's diversity of fish and wildlife and the recreational and educational opportunities associated with them.

- As a consumer, your voice is extremely important to businesses that rely on outdoor enthusiasts to purchase their products. The goal is to let these companies know that you, as a consumer of their product(s), support paying a small user fee added to their product that will be dedicated to wildlife conservation, outdoor recreation, and conservation education. For the Wildlife Diversity Funding Initiative to become a reality we need the support of the businesses and manufacturers that sell and make these products. Your letters are absolutely essential for this to happen.

Key points to include in a consumer's letter to industry:

1. You are writing as a consumer and an outdoor recreationist.
2. You support Teaming With Wildlife and encourage companies to do the same.
3. A funding mechanism is needed to sustain both the natural environment and their marketing environment.
4. Conservation for 95% of America's fish and wildlife and their habitats is underfunded.
5. A dedicated user fee on outdoor products makes sense.
6. The cost to user (you) is minimal.
7. Benefits are tremendous...wildlife conservation, greater outdoor recreational and educational opportunities.
8. Industry support is essential.
9. Please join the coalition.

Top 10 companies to write letters to:

Please address your letters to the CEO of the company (See sample letter on next page).

L.L. Bean, Inc.
1 Casco Street
Freeport, ME 04033
Attn: Mr. Leon A. Gorman, President

Recreational Equipment Inc. (REI)
6750 South 228th Street
Kent, WA 98032
Attn: Mr. Wally Smith, President

Coleman Outdoor Products Inc.
250 N. St. Francis Ave.
Wichita, KS 67202
Attn: Mr. Michael Hammes, CEO

Johnson Camping (owns Eureka, Camp Trails,
Old Town Canoes, Silva Compasses)
1326 Willow Road
Sturtevant, WI 53177
Attn: Mr. John Crabb, CEO

Bausch & Lomb Sports Optics
9200 Cody
Overland Park, KS 66214
Attn: Mr. Joseph B. Messner, President

Nikon
1300 Walt Whitman Rd.
Melville, NY 11747
Attn: Mr. H Nakayama, CEO

Pentax
35 Iverness Dr., East
Englewood, CO 80112
Attn: Mr. Masa Tanaka, CEO

The Nature Company
750 Hearst Ave.
Berkeley, CA 94710
Attn: Mr. Ed Strobin, CEO

Wild Birds Unlimited
3003 E. 96th St.
Indianapolis, IN 46420
Attn: Mr. Jim Carpenter, CEO

Eastman Kodak Co.
343 State Street
Rochester, NY 14650
Attn: Mr. George M.C. Fisher, Chairman,
CEO and President

Sample Letter

Today's Date, 1995

XYZ Outdoor Equipment Manufacturing
1100 Yourtown Road
Anywhere, US 00000

Dear Company President,

I am asking for your support of the Fish and Wildlife Diversity Funding Initiative, also known as Teaming With Wildlife. I am an outdoor recreationist and a buyer of outdoor supplies and gear.

By Teaming With Wildlife, I realize I would be paying a little extra on products such as yours. I'm delighted to do that for the purpose of funding wildlife conservation, recreation and education projects.

Wildlife and their habitats together are what make the outdoors alive. The money raised by small user fees on products will be used to sustain both the natural environment and your marketing environment. It's a win-win situation.

If outdoor enthusiasts and industry do not team up, we may both lose the resources so vital to us. I hope to see your name added to the growing list of coalition members for Teaming With Wildlife.

Sincerely,

Your Name

Endangered and Nongame Species Program's Speakers Bureau Seeks Volunteers

The Division of Fish, Game and Wildlife is currently in need of volunteers for the Endangered and Nongame Species Program's Speakers Bureau. If you would like to help spread the word about what is being done to conserve and manage endangered, threatened and nongame wildlife in New Jersey we'd like to extend an invitation to join the Speakers Bureau.

As a member of the Speakers Bureau you will be trained to present the ENSP's non-technical slide program that provides an overview of the work being done in the Garden State to conserve biodiversity. As a Speakers Bureau volunteer you will become part of a regional team that provides slide programs to a wide variety of groups and organizations within your region. Your participation will help the ENSP fill a void that currently exists in our ability to communicate this important information to the public. The Speakers Bureau is crucial to helping build a constituency that supports the ENSP and the conservation of wildlife and their habitats.

If you would like to donate some of your time for this worthwhile cause, please contact Terry in the Southern District Office by calling (609) 628-2103; Mon. - Fri. between 8:30 a.m. and 4:30 p.m. Volunteers must become Wildlife Conservation Corps members and will be scheduled for one of several regional training sessions that are tentatively scheduled for January 1996.

Freshwater Mussels

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What can be done to save our native freshwater mussel species? Other than implementing certain preventative measures, which are being explored by N.J. Sea Grant, not much else can be done. Studies are now underway at Virginia Tech to evaluate the use of ponds as refuges from zebra mussels for native species, which may be an option for New Jersey if our waters become infested. Some experts are even exploring the use of liquid nitrogen to freeze native mussels and then bring them back after the zebra mussel threat has passed.

Recognizing these threats and recent declines, the ENSP has set out to locate and inventory the state's freshwater mussels. Studies are now underway to find the federal and state endangered dwarf wedgemussel (*Alasmidonta heterodon*). It is unknown if this species, which once occurred in the Delaware, Hackensack and Passaic rivers, still exists in the state. ENSP biologists are searching suitable habitats and historic locations for any live specimens or shells.

Field surveys usually involve snorkelling or using modified buckets with plexiglass bottoms that enable researchers to see the bottom when held in the water. So far, no signs of dwarf wedgemussels have been found. However, this by no means rules out the possibility that they still exist within the state. They are extremely small with a dark colored shell that makes them extremely difficult to find when they are half buried in the bottom mud or sand. In fact, dwarf wedgemussels are so elusive that the city of Wilson, North Carolina has offered a $1,000 reward to anyone having state and federal collecting permits who finds a new dwarf wedgemussel population or range extension between Georgia and Maine. It may be the first time a bounty has been offered for finding an endangered species.

If dwarf wedgemussels are found in the Garden State, the ENSP will immediately implement protection strategies as outlined in the U.S. Fish and Wildlife Service recovery plan, which are aimed at protecting, monitoring and restoring the population.

The ENSP is also assessing the location and abundance of three federal candidate species - the green floater, *Lasmigona subviridis*, brook floater, *Alasmidonta varicosa*, and the yellow lampmussel, *Lampsilis cariosa*. The green floater has not been reported in the state for nearly 100 years. The brook floater and yellow lampmussel can still be found in small, isolated populations within the state and are thought to be declining. Combined with existing data, the results of these and other studies will allow the ENSP to determine the status and best protection strategies for N.J.'s native mussels. The ENSP is planning to make available to the public a freshwater mussel atlas of N.J. that contains descriptions of native species and distribution maps.

New Jersey's Herptile Atlas

By Eric Stiles and Bob Raftovich

The ENSP and a corps of dedicated volunteers have initiated an exciting, new undertaking - the N.J. Herptile Atlas. The goal of the Atlas project is to provide comprehensive location and distribution information for N.J.'s reptiles and amphibians. Upon completion of the initial training session in March 1993, volunteers eagerly set out to their local woods, ponds, and backyards in search of the sometimes elusive herptiles. Volunteers are the key component to the succcess of the Herptile Atlas project.

ENSP biologists are tackling the study one landscape region at a time. The first landscapte area to be 'hit' by the herp squad was the southern section of N.J., or the Coastal Plain Landscape. This several year project will continue to unfold as it embraces other areas within New Jersey. Even if the ENSP is not focusing on the area that you would investigate, it is never too early to volunteer. Many volunteers have already begun surveying areas outside of southern N.J. and are providing vital information. All it takes is an hour or two per week between March and late September, and an eagerness to learn and explore. ENSP biologists will supply you with the needed information and materials to get you started on your adventure.

The Herptile Atlas project is aimed at collecting and compiling sightings of herptiles as part of the inventory phase of the ENSP's Landscape Project. Structured much like the Breeding Bird Atlas, the Herp Atlas relies primarily on volunteers for data collection. The Herp Atlas data is entered into a computer database, and will eventually become part of the State's rare and nongame wildlife database. The data will be combined with that from migratory bird and invertebrate surveys, as well as known information about habitat types, plant communities, and soil types. ENSP biologists will use this information to map ranges and critical habitat for N.J.'s wildlife, especially rare and endangered species. The maps and critical habitat information will then be provided to land managers, planners and conservation organizations. Once the information is in the hands of the planners, land protection can be targeted at the most important areas, while allowing for economic growth within the state.

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Herptile Atlas

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Although patterned after the Breeding Bird Atlas, the Herp Atlas faces different problems and challenges. There are fewer people interested in, and familiar with, herptiles and there are not many interest groups or societies built around them. This has made it more difficult for ENSP biologists to find people who are interested, able and willing to donate their time. Those that do volunteer are therefore very important to the success of the project.

Although the ENSP gains valuable information, volunteers receive their own rewards. Imagine walking through a cedar swamp on a warm, muggy night in June as a horde of Pine Barrens treefrogs begin their nightly mating chorus. An ordinary rotting log can reveal graceful ring-necked snakes, or lightning fast fence lizards and skinks. These and other interesting and exciting encounters are experienced by volunteers. Volunteers also benefit from increased knowledge and understanding of the world around them. "Herping" gives them the opportunity to observe not only amphibians and reptiles, but birds, mammals, plants and habitats as well.

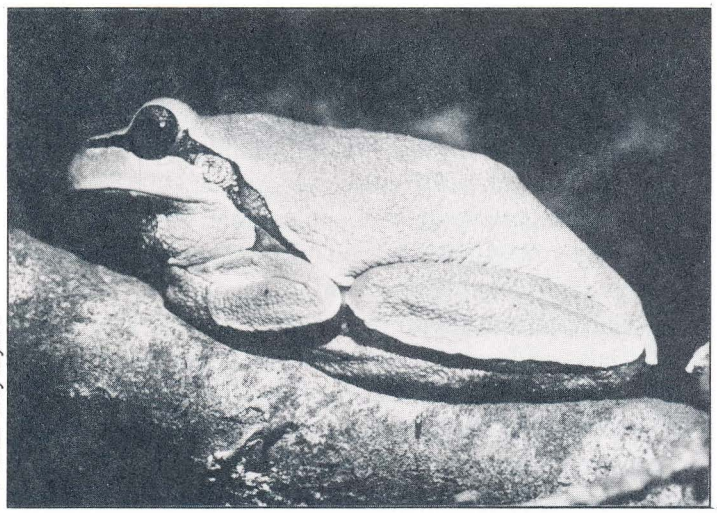

Photo: Clay Myers

The opportunity to see such 'living jewels' as this beautiful Pine Barrens Treefrog is just one of the rewards awaiting Herp Atlas volunteers.

In 1996 the ENSP is expanding the focus area of the project to include the Highlands Landscape Region. Until now the project has focused on the Southern Coastal Plain Landscape Region, consisting of Cumberland, Cape May, and southwestern Atlantic counties. The Highlands Landscape Region runs in a band from northeast to southwest across portions of Warren, Sussex, Hunterdon, Morris, Passaic and Bergen counties. The terrain of the Highlands Region is predominantly mountainous - it lies where the Appalachians bend east into New Jersey from Pennsylvania. The greater relief, higher elevations, and rockier geology will provide a good contrast to the flat, sandy lowlands of the Coastal Plain Landscape. To kick off the effort in the Highlands Landscape Region, the ENSP will be holding a training session for volunteers in northern New Jersey in early spring of 1996. Details will be announced in the winter; please call if you would like to be placed on the mailing list.

The increased focus area of the Atlas will require more volunteers. Even though the primary focus is on Landscape regions, the ENSP welcomes data from any part of the state. Also on slate for 1996 is the development of a system of county or regional coordinators. The coordinators will be especially helpful to ENSP biologists because of their greater familiarity with local areas and people. They will act as liasons between Atlas volunteers and the ENSP, coordinate the efforts of volunteers in their area, and have input as to which sites will be surveyed.

If you are interested in participating in the Herp Atlas please contact the ENSP's Tuckahoe office at: New Jersey Herptile Atlas Project, Division of Fish, Game & Wildlife, 2201 County Route 631, Tuckahoe, N.J. 08270; or by phone at (609) 628-2103.

Controlling Purple Loosestrife - Naturally!

Condensed from an article appearing in the Fish and Wildlife Reference Service Newsletter, *No. 104, Spring 1995*

For those of our readers who are familiar with wetland ecology you know very well that purple loosestrife, *Lythrum salicaria*, has long been the bane of wetlands in N.J and throughout the country. For those of you who are not familiar with this destructive exotic plant, it's a wetland perennial introduced to North America from Europe in the early 19th century. Since that time it has spread across the country to every state with the possible exception of Florida. Purple loosestrife is a tall (1.5 meters), aggressive plant that forms large, dense, monotypic colonies. It has lance shaped leaves, with a long terminal spike-like structure containing numerous small purplish-pink flowers. Once it becomes established, the result is a reduction in the biotic diversity of the wetland. The replacement of native vegetation eliminates natural foods and cover essential to many wetland wildlife. Purple loosestrife can render wetland habitats unsuitable for many species including bog turtles. Currently there is no effective control method except where purple loosestrife occurs in small, localized stands where it can be intensively managed.

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Loosestrife

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The most promising control measure appears to be the application of classical biological weed control techniques using natural enemies. Researchers, directed by Dr. Richard Malecki of the Cornell University Cooperative Wildlife Research Unit, have been studying loosestrife in Europe where it exists as only a minor component of the plant community, not a dominant member. Researchers have identified five species of beetles as potential control agents. Each species shows enough host specificity for purple loosestrife to be introduced in North America without worry of harm to native vegetation.

Hylobius tranversovittatus is a root-boring beetle that deposits its eggs in the lower stem of the plant. After hatching, the larvae destroy the nutrient source for leaves by feeding on root tissue. Two leaf-eating beetles (*Galerucella pusilla* and *G. calmariensis*) seriously affect growth and seed production of this prolific plant. The last two species, *Nanophyes brevis* and *N. marmoratus*, are flower-eating beetles that attack the plant's ovaries and greatly reduce seed production.

To date, all five species have been approved by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service for introduction in the U.S. Since 1992, over 90,000 leaf-feeding beetles have been released in 16 states (NY, PA, VA, OH, IN, IL, MI, WI, IA, MN, SD, CO, MT, UT, OR, WA). About 2,300 root-boring weevils have been introduced in eight states and the first releases of one of the flower-eating beetles were made in 1994 (in NY, MN, and OR). The other flower-eating beetle has yet to be released in North America.

The initial research phase of the project to introduce insects is complete except for perfecting a technique to mass rear the beetles. Efforts are now geared toward getting large numbers of insects established in each of the states with a loosestrife problem and determing the impact that the they are having on the plants.

Researchers are confident that the program will succeed if it is fully implemented. It has been predicted that within 15-20 years purple loosestrife could be reduced to approximately 10% of its present level over 90% of its North American range. The careful application of sound biological control measures provides a simple, effective, long-lasting and environmentally sound technique for controlling this harmful wetland plant.

Eagles

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The nests at Horne Run/Mannington (Salem County) and Raccoon Creek/Gibbstown (Gloucester County) failed again for the eighth and fourth consecutive years, respectively. The Gibbstown nest produced young only during its first season in 1991, and has failed each year since. Both of these pairs have moved their nest locations numerous times during this period. For example, the Mannington pair has used a total of six different nest locations since 1988. The Gibbstown pair has moved its nest location a total of four times since 1991. This year the Gibbstown pair was forced to relocate after an early spring storm blew their nest out of the tree.

The state's most productive nest award goes to the pair of eagles at Stow Creek. This pair has produced three chicks in four of the last five seasons. The pair at Union Lake also produced three chicks this season. During the banding procedure at Union Lake, one of the chicks was found with a fish hook lodged in its breast. Dr. Erica Miller, VMD, from Tri-State Bird Rescue and Research, Inc. of Wilmington, DE safely removed the fish hook and treated the injury. The bird successfully fledged from the nest during early July.

Of the 20 young produced this season, ENSP biologists were able to band and take blood samples from 16. Each of the young were fitted with standard US Fish and Wildlife Service leg bands and green color bands on the right leg. The blood samples are being used for contaminant analysis. Biologists were unable to band the young from the Newport/Nantuxent nest because this was the first year that it was active. The young from the Wading River nests were not banded because biologists could not safely reach the nest.

Peregrine Falcon

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falcon from the endangered species list to be based on complete and accurate information. The Service is asking anyone that is interested to submit data, comments or suggestions regarding this proposal to: Judy Hohman, Acting Field Supervisor, U.S. Fish and Wildlife Service, Ventura Field Office, 2493 Portola Road, Suite B, Ventura, CA 93003. Comments must be submitted by August 29, 1995.

Despite the action taken by the Service there are no immediate plans to remove the peregrine falcon from the New Jersey Endangered Species List. Although the number of nesting pairs and productivity has been on the rise since 1984, the ENSP has not met the recovery goals set forth in the state management plan.

1996 Wildlife Calendar

The Division's 1996 wildlife calendar will be available for sale in September. These beautiful full-color calendars will appeal to everyone from the casual wildlife observer to the avid sportsman. Each month features a spectacular photograph of one of New Jersey's more than 400 wildlife species. In addition to the stunning photos, each page is packed with interesting information about wildlife and related activities. The calendar costs just $10 and is available at the Division's Trenton office at 501 E. State Street and the Pequest Trout Hatchery and Natural Resource Education Center just off Rt. 46 in Oxford.

Photo: *Harry Koch*

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